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Other illustrations may be given to show the connection between a knowledge of the anatomy of tissues and that of their physiology. If a leaflet of the sensitive plant be touched in a certain way, it closes, and one after another all the remaining leaflets follow its example in regular order of succession. How is the effect communicated from the first leaf to the second and so on? This question has already occupied much time and energy in its attempted solution, but how can one hope to be able to add anything to that already known about it, without a thorough knowledge of the anatomy of the tissues through which the stimulus passes! Another more hackneyed subject, but even better than this as an illustration, is the so-called water question. If any one doubts the necessity of training in anatomy as requisite to physiological study, let him attempt to explain the present theory of the ascent of water through the trunks of high trees, to a person ignorant of plant anatomy.

In one of the editions of Gray's structural botany in speaking of the various departments of the science, he says: "A complete system of classification can only be made when our knowledge of all the other departments becomes complete." If this is the end toward which we are all striving, the importance of a proportionate and symmetrical development of the various branches can hardly be over-estimated.

Notes on Some Algæ in the Herbarium of the Long Island Historical Society.

By W. G. FARLOW.

Recently I received from Dr. Jelliffe some specimens of marine algæ from the collections of Mr. J. Hooper, Mr. Calverly and Col. Pike, now in the Herbarium of the Long Island Natural History Society, and since several of the species are scarcely to be found in other herbaria, the following notes may be of interest.

Of *Callithamnion Dietziæ*, Hooper, three specimens, were sent. That numbered 109 is the type specimen, and out of it was cut a piece which is now the only specimen of the species in the Harvey Collection in Trinity College, Dublin. Another specimen without number marked merely *Call. Dietziæ*, Hooper, appears to be the same thing, although much faded and not in especially good condition. No. 108, however, called also *Dietziæ*, does not seem to me to belong to that species but to be rather *C. byssoideum*. The fourth specimen is marked "cum fructu." It is in reality sterile, and what was probably mistaken for fruit is nothing but the more densely colored chromatophor which is collected at the nodes. This specimen hardly can be referred to *Dietziæ*, although it is too young and undeveloped to enable one to say exactly to what species it belongs. The two specimens from Herb. Hooper and that in Herb. Harvey appear to be the only authentic originals in existence, and none of them have cystocarpic fruit. I have recently been able to examine again the specimen in Herb. Harvey, and although in my Marine Algæ of New England, p. 127, it did not seem to me that I was warranted in trusting to my memory in expressing a decided opinion on a specimen which I had not seen for several years, a recent reëxamination only confirms the opinion which I originally formed, viz: that *C. Dietziæ* is in reality a very slender form of *C. Baileyi*, Harvey, rather than a distinct species related to *C. corymbosum* and *C. versicolor*, the view adopted by Harvey in the Nereis, ii, 236. I have no doubt that several of my specimens of *C. Baileyi* var. *laxa*, collected at Wood's Holl are identical with the originals of *C. Dietziæ* in Herb. Hooper. The great variability of *C. Baileyi*, well known to all who have collected largely on the New England coast, would hardly be suspected by those who have seen merely herbarium specimens.

Two specimens marked *Fucus canaliculatus*, collected by Col. Pike, at Fort Hamilton and Astoria, were sent by Dr. Jelliffe. The specimens certainly had all the appearance of belonging to this species, although the conceptacles were so young that it was not possible for me to decide whether the structure was that of *Pelvetia*, in which genus the species is now placed by algologists. *P. canaliculatus* is a very common species of Europe, but has not yet been found with certainty in the United States. Whether it is possible that there is an error in localities as given by Col. Pike could, probably, be easily settled by Brooklyn algologists, for the species should be easily recognized at Fort Hamilton by collectors at the present time.

Ectocarpus Dietziæ, Harvey, and *E. Hooperi*, Harvey. Unfortunately, the originals of these two species in Herb. Hooper and Herb. Harvey are all sterile, and it is practically out of the question that future algologists should ever be able to recognize them again, there being nothing specifically characteristic in the sterile plants. All that one can say is, that of the two specimens of *E. Hooperi* in Herb. Hooper, one, No. 590, agrees with Harvey's figure in the Nereis in having short spinose ramuli, but No. 55 does not agree at all with the figure. Exactly what either of them is cannot be determined from the original specimens, and *E. Hooperi*, as well as *E. Dietziæ*, should be dropped from the list of known *Ectocarpi*. The original specimen of *Ectocarpus lutosus*, Harvey, from Herb. Hooper, shows that the specimens from Wood's Holl, mentioned in the Marine Algæ of New England, were correctly determined.

Codium tomentosum, Stackhouse.—A specimen of this species is labelled Greenport, L. I., but the locality needs confirmation. This alga is common in many parts of the world, and the New England coast is one of the comparatively few places where it is not known to occur. It appears more probable, seeing how commonly specimens of the species are found in collections, that there is an error in the label than that its presence in Long Island Sound should have escaped the observation of the numerous collectors in that region.

The specimens of *Wrangelia filicina*, Harvey, and *Hypnea Wurdemanni*, Harvey, are to be referred respectively to *Wrangelia penicillata* and *Eucheuma isiforme* as stated in the Nereis. The *Striaria attenuata* of Herb. Hooper is not that species, but *Dictyosiphon fœniculaceus*, Greville, and *Mesogloia multifida* from the same source is *Mesogloia divaricata* Kuetzing.

A Study of Solanaceous Anthracnoses.

The tomato, pepper and egg-plant are three vegetable fruits belonging, as is well-known, to the same family (Solanaceæ) of plants. Two anthracnoses are recorded upon the tomato, namely: *Glœosporium fomoides*, Sacc., and *Colletotrichum Lycoperseci*, Chest. The pepper has two also, *Glœosporium piperatum*, E. & E., and